

I claim:

1. In a building, a roof structure comprising
an essentially non-load supporting, vertically extending central
column having a lower end spaced above a supporting
structure of said roof structure; and
a plurality of at least three elongated and vertically inclined,
multi-element trusses fixedly joined on innermost ends
thereof to said central column and being rotationally
displaced from one another in a horizontal plane, each of
said trusses extending radially outwardly and downwardly
from said central column to an outer end portion thereof
for mounting on a weight bearing supporting structure at a
level spaced above the supporting surface of said building
and below the lower end of said column, said plurality of
trusses thereby defining a roof structure in the form of a
cone 1shaped polygon.

2. The building of Claim 1 wherein each of said multi-element trusses is rotationally displaced in said horizontal plane from adjacent ones of said trusses by essentially the same angle of displacement.

3. The building of Claim 1 wherein each of the said multi-element trusses comprises

an elongate upper beam;

an elongate lower beam spaced below said upper beam;

a plurality of vertically extending spacer members radially spaced apart and connected between said beams to form a series of truss sections between adjacent ones of said spacer members; and

a series of diagonally extending elongate reinforcing members, a different one of said reinforcing members being disposed in each of said truss section, each of said reinforcing members being connected on a lower, radially outer end thereof to an intersection between said lower beam and one of said spacer members on a radially outer end of a corresponding one of said truss sections, and being connected on an upper, radially inner end thereof to an intersection between said upper beam and one of said spacer members on a radially inner end of said

corresponding one of said truss sections.

4. The building of Claim 1 wherein each of said trusses comprises a plurality of elements made of hollow box tubing.

5. The building of Claim 1 wherein each of said trusses comprises, an elongate upper beam being inclined at a first vertical angle relative to horizontal and an elongate lower beam disposed under said upper beam, said upper beam being connected to said lower beam by a series of vertically extending and radially spaced apart spacer members forming a series of truss sections between adjacent ones of said spacer members, said lower beam being inclined at a second vertical angle relative to horizontal which is less than said first angle.

6. The building of Claim 1 wherein said weight bearing support comprises a plurality of elongate posts equal to said plurality of trusses, each of said posts supporting said outer end portion of a different one of said trusses.

7. The building of Claim 1 wherein said roof structure further comprises a series of radially spaced apart cross-braces adjoined on opposite end portions thereof between adjacent pairs of said trusses.

8. The building of Claim 3 wherein said upper beam is inclined at a first vertical angle relative to horizontal and said lower beam is inclined at a

second vertical angle relative to horizontal, said second angle being less than said first angle.

9. The building of Claim 3 wherein said roof structure further comprises a first series of radially spaced apart cross-braces adjoined on opposite end portions thereof between adjacent pairs of said lower beams.

10. The building of Claim 3 wherein said roof structure further comprises a second series of radially spaced apart cross-braces adjoined on opposite end portions thereof between adjacent pairs of said upper beams.

11. The building of Claim 3 wherein said roof structure further comprises a first series of radially spaced apart cross-braces adjoined on opposite end portions thereof between adjacent pairs of said lower beams and a second series of radially spaced apart cross-braces adjoined on opposite end portions thereof between adjacent pairs of said upper beams.

12. The building of Claim 3 wherein a radially outer end portion of each of said upper beams projects outwardly beyond a corresponding outermost one of said spacer members, an outer end of each of said upper beams being connected to an angular intersection between two adjoining mounting plates, a series of elongate wood board trim members being connected on end portions thereof to said mounting plates to form a polygonal peripheral border around said roof structure.

13. The building of Claim 3, wherein a radially outer end portion of said upper beam projects radially outwardly beyond a radially outermost one of said spacer members, the radially outermost one of said spacer members extending vertically downwardly below a radially outer end of said lower beam, a lower end portion of the radially outermost one of said spacer members located below said lower beam being attached to said weight bearing support.

14. The building of Claim 3 wherein said series of truss sections is four.

15. The building of Claim 3 wherein said upper beam, said lower beam, said spacer members and said reinforcing members of each of said trusses are constructed of hollow box tubing.

16. The building of Claim 8 wherein said first angle is about 22 degrees and said second angle is about 16 degrees.

17. The building of Claim 9 wherein said first series of cross-braces comprises elongate steel angle iron members.

18. The building of Claim 10 wherein said second series of cross-braces comprises elongate wood boards.

19. The building of Claim 17 further comprising a series of overhanging steel plates attached on a central portion thereof to each of

